2006–2007

Saskatchewan

Provincial Budget

Performance Plan

Safe Drinking Water Strategy

2007-00018

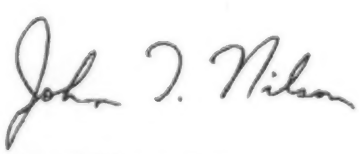
Minister's Message

It is my pleasure to present the 2006-07 Performance Plan for the Safe Drinking Water Strategy, on behalf of the various Government departments and agencies involved.

Safe drinking water is essential to the health and economic well-being of the people of Saskatchewan. Many of the key actions and initiatives outlined in this Performance Plan are underway and are intended to protect and improve the sustainability and quality of Saskatchewan's drinking water supplies and source waters. Public safety and environmental protection through better management of drinking water and wastewater systems remain key priorities of the Strategy. Infrastructure investments and policy responses outlined within this plan will help to ensure that we have a clean supply of drinking water in the future. The departments and agencies co-operating in the Strategy will continue to work with waterworks owners, operators, landowners and other stakeholders to improve the management of drinking water and source water quality.

The departments and agencies participating in the Strategy include Saskatchewan Environment, Saskatchewan Watershed Authority, Saskatchewan Government Relations, Saskatchewan Health, Regional Health Authorities, SaskWater and Saskatchewan Agriculture and Food. The departments and agencies are committed to completing the key actions identified in this Performance Plan and have incorporated these actions in their departmental performance plans. The following pages provide more detail on our plans for meeting our objectives and reporting on the actual progress of the Strategy to the people of Saskatchewan through the *2006-07 State of Drinking Water Quality Report* in July 2007.

As Saskatchewan moves into its second century, we can also look back with pride on all that we have achieved together here in our land of living skies. Whether they receive drinking water from large municipal waterworks, smaller water treatment plants or rural water pipelines, the citizens of Saskatchewan need assurance of the safety and security of their drinking water. Ultimately, our goal is to have an even greater impact in the future as we work together to improve the quality of drinking water and the sustainability of the systems which produce it.



John T. Nilson, Q.C.
Minister of Environment

About the Safe Drinking Water Strategy

The Safe Drinking Water Strategy (SDWS) is Saskatchewan's comprehensive plan of action designed to deal with the risks that affect drinking water and impact the health of the province's people. The SDWS was created as one of a series of Government measures to address drinking water and source water quality and management following the tragedy in Walkerton, Ontario, where a number of people died because of contaminated drinking water. It also responds to recommendations from the North Battleford Commission of Inquiry, which examined the waterborne Cryptosporidiosis outbreak that affected that city in 2001. The Strategy was first announced in April 2002 and since that time has made significant progress in advancing drinking water and source water protection in the province. Key actions and regulatory improvements are planned for 2006-07 to continue progress on water management in Saskatchewan.

Several departments and agencies are involved in implementing the Strategy including Saskatchewan Environment (SE), Saskatchewan Health (SH), Regional Health Authorities (RHAs), Saskatchewan Watershed Authority (SWA), SaskWater, Saskatchewan Government Relations (SGR) and Saskatchewan Agriculture and Food (SAF). These departments and agencies deliver Saskatchewan's regulatory programs and advisory services for drinking water and wastewater management for public and semi-public waterworks across the province, water source protection, watershed planning and most activities that may affect the quality of water. Their programs include:

- an enhanced regulatory environment administered by SE, SH and the RHAs, that has resulted in improved inspection and enforcement actions, water related problem follow-up, water sample analysis, ongoing efforts to promote operator certification and efforts to enhance public information and accountability surrounding water quality;
- comprehensive management of the planning, use, development and conservation of Saskatchewan watersheds and source waters through the Saskatchewan Watershed Authority;
- ongoing operation of SaskWater as a self-sustaining commercial operation providing cost effective water management infrastructure and consulting services to communities;
- financial support for priority drinking water and wastewater infrastructure improvement through available grant programs administered by SGR; and
- legislation and integrated actions to aid in the protection of water sources and supplies by SE, SWA, SGR, SAF, SH and the RHAs.

Key partners outside the provincial government include the federal government through the Canada-Saskatchewan Infrastructure Program (CSIP) and the Canada-Saskatchewan Municipal Rural Infrastructure Fund (CSMRIF), the Saskatchewan Urban Municipalities Association (SUMA), the Saskatchewan Association of Rural Municipalities (SARM), the Saskatchewan Water and Wastewater Association (SWWA) and the Operator Certification Board (OCB). SARM and SUMA were key partners during consultation on the Strategy and continue to help in its continued development and implementation. The SWWA and the OCB continue a history of advancing waterworks operator certification in the Province. The OCB is appointed by government but operates at arm's length in considering the qualification and standing of water and wastewater works operators in the province. SE leads the ongoing planning and policy work of the SDWS to which participating departments and agencies contribute.

There have been no restructuring or major organizational changes since the release of the 2005-06 Performance Plan. Further information on the Safe Drinking Water Strategy is available on the Internet at:
http://www.se.gov.sk.ca/environment/protection/water/Water_report_April_2003.pdf.

Plan at a Glance

The Strategy partners continue working towards achieving multi-year goals and objectives in support of meeting the Strategy's vision. This is the third comprehensive plan that has been released for the SDWS. The plan has and will continue to evolve as the strategic planning, performance management and public reporting processes evolve and stakeholder feedback is incorporated. As in past years, we will report actual progress compared to our planned progress in the *2006-07 State of Drinking Water Quality Report*, scheduled for release in July 2007. Previous year-end results from 2004-05 and 2005-06 have been reviewed and used to focus efforts to improve water management in the province for the 2006-07 fiscal year. The key actions contained in this Performance Plan relate only to 2006-07 and support continuing progress towards the Plans' multi-year goals and objectives. A set of performance measures is also in place to gauge progress in achieving the objectives.

Below is a summary of the 2006-07 Performance Plan for the Safe Drinking Water Strategy.

VISION

A sustainable, reliable, safe and clean supply of drinking water that is valued by the citizens of Saskatchewan

GOAL 1

Waterworks systems and operations provide safe, clean and sustainable drinking water

***OBJECTIVE 1** – Waterworks staff are capable and well trained*

Performance Measure

- Per cent of communities with human consumptive waterworks whose operators have received some level of certification

***OBJECTIVE 2** – Infrastructure produces water that meets the national drinking water quality guidelines*

Performance Measures

- Per cent of facilities that meet bacteriological guidelines 90 per cent of the time
- Per cent of waterworks (regulated by SE) that meet disinfection requirements 90 per cent of the time
- Number of waterworks that do not meet Saskatchewan Environment's minimum treatment requirements (broken down by pre and post regulatory changes)

***OBJECTIVE 3** – Waterworks systems and operations are financially sustainable*

Performance Measure

- Number and percentage of municipalities that have waterworks rates that cover waterworks expenditures and debt payments

GOAL 2

The drinking water regulatory system is clear and effective

***OBJECTIVE 1** – Regulations are clear and ensure that health and drinking water quality will be protected*

Performance Measure

- Number of accredited drinking water testing laboratories

***OBJECTIVE 2** – Professional regulatory staff have access to the tools necessary to ensure compliance*

Performance Measures

- Under development

GOAL 3

High quality source waters are protected now and into the future

OBJECTIVE 1 – *Risks to source water quality are known*

Performance Measure

- Number of sewage effluent discharges that represent a risk to source waters

OBJECTIVE 2 – *Watersheds are protected, natural purification and protection processes are maximized and potential for contamination is minimized*

Performance Measures

- Number and percentage of municipalities with bylaws in place to protect their drinking water supplies
- Water quality index ratings for lakes
- Water quality index ratings for rivers

GOAL 4

Citizens and consumers trust and value their drinking water and the operations which produce it

OBJECTIVE 1 – *Consumers value quality water and are willing to pay for it*

Performance Measure

- Per cent of survey respondents indicating that they are willing to pay more for their drinking water

OBJECTIVE 2 – *Citizens and consumers trust the quality and reliability of their drinking water systems and are confident in the regulatory system*

Performance Measure

- Per cent of survey respondents indicating that they are very or somewhat confident in the quality of their tap water

OBJECTIVE 3 – *Citizens have meaningful access to information about the quality of their water*

Performance Measure

- Number of system owners that publicly release water quality results

OBJECTIVE 4 – *Reduced consumption of water*

Performance Measure

- Average per capita consumption of water (gallons per day)

2006-07 Financial Overview

In 2006-07, the Province will invest $13,568 million in safe drinking water. Funding for this Strategy comes from various Government departments and agencies and is contained in their respective appropriation.

2006-07 APPROPRIATION	*(in thousands of dollars)*
Environment – overall co-ordination of the Strategy, regulation and inspection of municipal and large waterworks and water quality standards	$ 3,096
Saskatchewan Watershed Authority – comprehensive management of the planning, use, development, conservation and protection of Saskatchewan watersheds, source waters, and water management infrastructure	6,537
Health – regulation and inspection of smaller semi-public waterworks, deals with waterborne illnesses and water sample analysis	1,189
Government Relations – federal and provincial water infrastructure assistance under :	
CSIP	755
CSMRIF	1,991
Total Appropriation	$ 13,568

Trends and Issues

The following is a summary of the major items that can impact drinking water quality and the future plans of the SDWS to address the associated challenges.

SMALL WATERWORKS

Waterworks systems installed during the 1950s and 1960s have exceeded their expected working lives. In the 1980s and 1990s, there was a significant decline in spending on maintenance and upgrading of water and wastewater treatment infrastructure. At the same time that these systems continue to age, upgrading will be required to meet national-based drinking water quality standards that are presently being phased in. Very small waterworks such as those serving less than 80-100 people may lack the ability to finance improvements to meet water quality standards, particularly if the raw water supply is not of reasonably good quality to start with. More specifically, very small communities have found or anticipate that compliance with requirements for operator certification and waterworks system assessments represents a significant financial pressure despite efforts by Saskatchewan Environment to develop policies that would achieve compliance at minimal cost.

Alternatives to conventional water supply and standard infrastructure such as broader introduction of the hygienic waterworks classification and/or use of "regional operators" has been helpful in providing safe water and may offer cost-effective solutions, particularly for smaller systems or locations experiencing significant decline. All of these issues affect the abilities of small waterworks to provide drinking water in an affordable and sustainable manner and further alternatives may be necessary to aid in resolving these difficulties.

REGULATORY IMPLEMENTATION AND CLARITY

Although Saskatchewan's regulatory framework has been significantly improved with the introduction of the Safe Drinking Water Strategy in April 2002, further review of policy and requirements for interagency and interprovincial consistency was undertaken in 2005-06. The review examined the benefits, costs and consistency of requirements for operator certification, waterworks system assessment, water quality standards and disinfection across waterworks of a variety of sizes, with particular reference to small waterworks.

Consultation with the Certification Advisory Committee on operator certification has generally indicated that the certification standards are well founded although minor adjustments may better facilitate attainment of certification goals and water safety. Evaluation and implementation of changes arising from these reviews are necessary to more closely align requirements within Saskatchewan with those of other provinces, better equate requirements for similarly sized waterworks governed by Saskatchewan Environment and Saskatchewan Health/Regional Health Authorities and to aid small communities to ensure the provision of safe water by affordable and publicly acceptable means.

SUSTAINING AND PROTECTING WATER SUPPLIES

Saskatchewan continues to face ongoing and growing upstream/downstream pressures in terms of water demand. The potential for changes in water availability could also arise from climate change. In terms of advancing related goals, a water conservation plan is important to ensure that sufficient quantities of water will be available for use in future years and under drought conditions.

Other jurisdictions in Canada have turned to broader integrated water management frameworks to protect drinking water sources, manage water quantity and improve opportunities for economic development. Saskatchewan may benefit from considering the development of an integrated water management framework to address broad water concerns and objectives within the province. Proper management of water in Saskatchewan requires attention to water use planning and to allocation and physical infrastructure such as dams and monitoring stations. It also involves field research, data management and planning in a broad and integrated manner. The water stewardship initiative under the Green Strategy offers a viable alternative to address integrated water management initiatives not covered by the Safe Drinking Water Strategy.

Protecting drinking water source supplies is key to ensuring quality drinking water. Saskatchewan could benefit from an expanded system of land use policies similar to those that exist in other jurisdictions and are used to direct land use and development processes that protect source water from non-point source contaminants. Emerging source water related issues in Saskatchewan include items such as endocrine disrupting substances, pharmaceuticals, use of pesticides and increasing population density in some country residential acreage settings. Work directed toward sustaining, managing, protecting and enhancing source water supplies is being planned for 2006-2007.

SUSTAINABLE INFRASTRUCTURE

Sustainable water infrastructure is critical to maintaining public health and the economic well-being of Saskatchewan citizens. Given the demands on water treatment systems to meet nationally recognized standards, infrastructure funding will be important to the future success of the Strategy in achieving its safe drinking water goals. Ongoing funding for works improvement to match the new federal funding programs will also ensure that future infrastructure funding maximizes the potential benefits.

There has been a significant investment in infrastructure improvement through provincial and federal/provincial programs, such as the Canada-Saskatchewan Infrastructure Program (CSIP). Also, funding is being provided under the Canada-Saskatchewan Municipal Rural Infrastructure Fund (CSMRIF) and the federal New Deal Gas Tax funding.

Analysis continues to indicate that dealing with the cost of ensuring potable water in the future and ensuring access to federal funding are critical. If the Strategy is to continue to be successful, a number of issues will need to be addressed regarding the allocation of these funds. They include: the municipal ability to pay; the reliance on senior government funding for upgrading; long term sustainability of municipal water systems; encouraging regional systems or municipal co-ordination; and the best use of infrastructure funding – particularly for small or declining communities. It has also been determined that most people under-value their drinking water supplies. Further education about the true value of water, water pricing and conservation will also assist in informing the public.

In order to address some of these concerns regulatory changes have been made under the SDWS that require municipalities to establish a waterworks pricing policy and capital investment strategy and publicly report on key financial waterworks information, including the extent that waterworks revenues cover expenditures and capital debt repayments. For waterworks to be financially sustainable and able to fund capital investments, rates need to be based as much as possible on cost recovery. By having access to water related information (see Public Education below), consumers will be more willing to accept rates that cover costs.

PUBLIC EDUCATION

Public awareness and recognition of the value of water remains an important element in sustaining progress on improving water quality and management through the Safe Drinking Water Strategy. Knowledge of the impact of failing to protect source water has been important in advancing efforts on watershed planning achieved to date.

Ongoing efforts to improve and broaden public access to timely and accurate drinking water, wastewater and source water quality information has proven valuable in building public confidence in drinking water supplies. As North Battleford and the Walkerton tragedy recede into memory, complacency represents a growing threat to the safety of water supplies.

Education and drinking water information are important elements in countering complacency and the threat that it represents to drinking water safety. Waterworks owners and the public can benefit from further education on the value of water, a better understanding of water quality, further knowledge on what it takes to achieve safe water and the associated long-term benefits.

Changes from 2005-06 Performance Plan

The goals and objectives included in the Strategy's 2006-07 Performance Plan are unchanged from 2005-06. One performance measure, "Number of municipalities with pricing and capital investment policies in place for their waterworks," has been changed to "number and percentage of municipalities that have waterworks rates that cover waterworks expenditures and debt payments." The revised measure provides a better indicator of the financial sustainability of waterworks. Another performance measure, "Water Quality Index (WQI) ratings for watersheds in the Province," has been broadened to include both "Water Quality Index for Lakes" and "Water Quality Index for Rivers." This broadening of application will provide an additional indicator of the quality of lakes in the province. The baseline values for the WQI at rivers were re-examined to include nutrients as a better indicator of the health of aquatic ecosystems.

Goals, Objectives, Actions and Measures

This section provides the detailed 2006-07 Performance Plan for the SDWS that supports advancement towards the vision of a sustainable, reliable, safe and clean supply of drinking water that is valued by the citizens of Saskatchewan. Under each goal, a number of multi-year objectives have been established that support progress towards the broader goal statement. For each objective, a set of key actions that will be undertaken in 2006-07 has been identified along with the department or agency responsible. To assess whether key actions support and advance the objective, a set of performance measures has been established for each objective to gauge progress towards meeting the objective.

Major cost drivers for the Strategy include: field inspection; the need to address water contamination incidents and associated testing costs; infrastructure related demands and unexpected failures; the need to track and manage the application of emerging water quality related standards; natural events (flood or drought); and incidents affecting source water quality. Other elements affecting the success of the strategy to some degree relate to the timing of decisions by project proponents, construction delays and significant weather events affecting construction, all which may impact progress on infrastructure improvements.

GOAL 1

Waterworks systems and operations provide safe, clean and sustainable drinking water

***OBJECTIVE 1** – Waterworks staff are capable and well-trained*

Provision of safe drinking water is highly reliant on the knowledge and capabilities of waterworks operators and the manner in which they apply their skills to produce and monitor the quality of drinking water. Along with source protection, sound and capable infrastructure and water quality monitoring, knowledgeable operators capable of sound waterworks operations are one of the elements of a "multi-barrier approach" to ensure safe drinking water.

Key Actions for 2006-07

- Support and advance ongoing achievement and compliance with Operator Certification and Operator Continuing Education requirements. [Environment]
- Finalize and implement changes arising from consultation with the Certification Advisory Committee, by evaluating need to certify small system waterworks operators and all operators working at Environment regulated waterworks to certify to some level by 2010. [Environment]

What are we measuring?	**Where are we starting from?**
Per cent of communities with human consumptive waterworks whose operators have received some level of certification	86.8% *[September 30, 2005]*

This performance measure quantifies the number of communities with waterworks operators that have been certified to some level and directly supports gauging progress towards the objective. The greater the number of communities with certified operators, the greater the safety of the water supply since operator knowledge will influence the quality of water produced. SE influences this measure by establishing regulations that require the certification of operators; however, it is up to each waterworks owner to ensure that they comply with the regulations.

***OBJECTIVE 2** – Infrastructure produces water that meets the national drinking water quality guidelines*

Infrastructure design, capability, condition and maintenance are critical in the production of safe drinking water. Standards, incentives, requirements, compliance measures and implementation plans must also be in place to ensure that waterworks are operated and monitored to achieve drinking water of a quality that protects human health. The *Guidelines for Canadian Drinking Water Quality* (see: http://www.hc-sc.gc.ca/hecs-sesc/water/dwgsup.htm) are used in Canada as the definitive measure of science-based safety criteria for drinking water. Saskatchewan has now adopted the guidelines as standards (see: http://www.se.gov.sk.ca/environment/protection/water/Drinking_Water_Standards_post.pdf).

Key Actions for 2006-07

- Finalize and implement strategies to aid small communities to ensure the provision of safe water by affordable and publicly acceptable means. [Environment]
- Implement a "cluster strategy" to establish regional anchors from which water services are delivered. This strategy will allow the more cost-efficient and effective delivery of services compared to service provision on a one-off basis. [SaskWater]
- Participate in the federal/provincial Committee on Drinking Water as a means to support development of the *Guidelines for Canadian Drinking Water Quality* and thereby support provision of safe drinking water in Saskatchewan. [Environment]
- Assist northern municipalities in providing safe drinking water and ensuring sewer systems do not contaminate surrounding areas and water sources; continue to provide funding under the Northern Water and Sewer Program, the Northern Emergency Water and Sewer Repair Program; and continue to provide engineering, operating and maintenance advice to northern communities on their water and sewage systems. Government Relations (GR) is also developing a strategy to address longer-term critical northern water and sewer needs. [Government Relations and SaskWater]
- Continue to provide funding under the Canada-Saskatchewan Municipal Rural Infrastructure Fund to assist municipalities in providing safe drinking water and ensuring sewer systems do not contaminate surrounding areas and water sources. Saskatchewan Environment provides technical advice to Government Relations in reviewing applications to ensure the projects provide water that meets drinking water quality standards. [Government Relations and Environment]
- The last of the Canada Saskatchewan Infrastructure Program funding was allocated in April 2004. Funding will continue to be paid out to water and sewer projects to the end of 2007-08 as they are completed. [Government Relations]

What are we measuring?	**Where are we starting from?**
Per cent of facilities that meet bacteriological guidelines 90 per cent of the time	92.6% *[August 31, 2005]*

The bacteriological quality of water is a key component of ensuring safe drinking water because of the potential for short-term (relatively immediate) health effects in the event of contamination. Bacteriological water quality is a key component of the *Guidelines for Canadian Drinking Water Quality* and Saskatchewan's drinking water quality standards. They are presently in full effect in the Province. Compliance with bacteriological water quality standards is a meaningful indicator of acute drinking water quality. SE has a high level of influence in the achievement of this requirement through regulations, education, compliance and enforcement actions.

What are we measuring?

Per cent of waterworks [regulated by Saskatchewan Environment] that meet disinfection requirements 90 per cent of the time

Where are we starting from?

92.8%
[August 31, 2005]

Disinfection of drinking water is key to preventing the spread of many waterborne diseases and is, therefore, integral in the protection of public health. In order to ensure drinking water is free of bacterial concerns, a total chlorine residual of 0.5 mg/L or a free chlorine residual of 0.1 mg/L must be maintained throughout the distribution system. Compliance with disinfection requirements is a good measure of the success of compliance related activities and also a measure of the bacteriological (acute) safety of the water supply. To achieve increased compliance, waterworks operators and owners may be influenced through education, compliance and enforcement actions. There is a high correlation with waterworks having frequent bacteriological samples indicating the presence of bacteria and low chlorine residual maintenance.

What are we measuring?

Number of waterworks that do not meet Saskatchewan Environment's minimum treatment requirements [broken down by pre and post regulatory changes]

Where are we starting from?

16 systems (before regulatory changes)
5 systems (post regulatory changes)
[September 30, 2005]

Certain water treatment actions are required at waterworks as a means to ensure basic treatment and protection of drinking water. For systems using groundwater sources, disinfection is required. Treatment for systems using surface or blended water sources requires an acceptable form of filtration and disinfection. The number of waterworks that do not meet minimum treatment requirements is a good measure of infrastructure water treatment capability. There is a high level of influence through regulations, but given significant costs associated with treatment plants upgrades, changes to reduce the number of affected waterworks take time. Numerous existing waterworks that were not previously regulated are now being regulated. Some of these newly regulated waterworks do not meet minimum treatment requirements, therefore, this performance measure will be affected until these waterworks meet minimum standards.

OBJECTIVE 3 *– Waterworks systems and operations are financially sustainable*

Ensuring the financial sustainability of the water and wastewater works is critical in the production of safe drinking water and proper wastewater management over the long-term. Waterworks deteriorate over time and may need to be replaced or expanded. Municipalities need to know the condition of their waterworks and put in place a pricing policy and capital investment strategy for these systems. Public transparency will aid in ensuring that water and wastewater systems are sustainable into the future.

Key Actions for 2006-07

- Municipalities are required by regulations to establish, by July 1, 2006, a waterworks pricing policy and capital investment strategy and to publicly report on an annual basis, beginning September 1, 2006, on key information on the financial sustainability of their waterworks, including the level of cost recovery. Municipalities will use the waterworks assessments required by the Saskatchewan Environment when establishing their rate policies and capital investment strategies. The public information will assist ratepayers' understanding of the financial soundness of their municipal waterworks and the need for cost recovery rates. Waterworks with cost recovery rates are more likely to be able to provide safe drinking water. [Government Relations]

What are we measuring?

Number and percentage of municipalities that have waterworks rates that cover waterworks expenditures and debt payments (level of cost recovery)

Where are we starting from?

Baseline information will be available in the fall of 2006

This measure quantifies the number of municipalities that have rates that cover waterworks expenditures and debt payments and gauges progress towards the objective. Government influences the measurement results through the established regulations. Lack of municipal capacity will limit some smaller municipalities from meeting the regulatory requirements. Some waterworks cannot be cost recovery, as the rates would be unacceptably high.

GOAL 2

The drinking water regulatory system is clear and effective

OBJECTIVE 1 *– Regulations are clear and ensure that health and drinking water quality will be protected*

Provision of safe drinking water is reliant on regulatory requirements that are clear and communicated to owners and operators of waterworks. Additionally, accepted standards and practices are required to ensure requirements are achieved in the proper manner. Program delivery and related poiicies are necessary to track and ensure that regulatory requirements are being met. Collectively, these measures will help to ensure that drinking water is safe and that wastewater effluent discharges do not threaten the quality of source waters or adversely impact the environment.

Key Actions for 2006-07

- Implement mechanisms to clarify and simplify regulatory requirements for owners of waterworks to advance compliance and water safety. [Environment]
- Work will continue with SUMA, SaskWater, consulting engineers and others to implement a program to facilitate waterworks assessment in the Province. [Environment]
- Semi-public water systems are regulated through *The Health Hazard Regulations.* Compliance with these regulations is monitored through inspections of the semi-public water systems, ensuring that the operators are routinely sampling the water supply and reviewing water quality test results. All health regions will be striving for 100 per cent inspections (approximately 1,400) of their public water supplies. To better address semi-public water systems in the far north (access only by plane/boat), Saskatchewan Health is working with the Mamawetan Churchill River Health Region in developing a self-evaluation process for assisting the health region in prioritizing inspections of water supplies that they regulate. [Health and Regional Health Authorities]
- Inspect waterworks across the Province at a frequency of two inspections at each surface water and priority groundwater waterworks and one inspection at every other regulated waterworks. Supplemental education and prevention activities will be delivered during inspections to help ensure waterworks meet operational and treatment requirements. [Environment]
- Revise the "Bacteriological Follow-up Protocol" and "Contaminated Drinking Water Follow-up Protocol" as needed to reflect evolving requirements and developments which could affect water safety. [Environment]
- Continue to implement the water and wastewater compliance and enforcement protocol to attain compliance with drinking water regulatory requirements. Department technical staff will receive new compliance and enforcement related training. [Environment]
- Starting January 1, 2006, the Provincial Laboratory has been analyzing potable water supplies for total coliform and E. *coli* bacteria using DC (differential coliform) media. This ensures simultaneous reporting of total coliform and E. *coli* results following a 24-hour incubation period. [Health]

What are we measuring?	Where are we starting from?
Number of accredited drinking water testing laboratories	6 (all laboratories providing analysis for SE regulated waterworks to maintain accreditation) *[September 30, 2005]*

The number of accredited laboratories is a good measure of the ability of laboratories to ensure high quality and representative analytical results that reflect the true quality of drinking water. SE influences this measure through the establishment of regulations that effectively require water-testing labs to be accredited. However, lab owners must cover the cost of accreditation.

***OBJECTIVE 2** – Professional regulatory staff have access to the tools necessary to ensure compliance*

Provision of safe drinking water is reliant, in part, on the training and tools that regulatory staff can access. The tools take the form of working agreements, computerized information systems as well as examples, guidelines and education information needed to deliver programming. Staff qualifications must also be assured and kept current with new or evolving water management processes. Collectively, these tools help to ensure that drinking water is safe and that wastewater effluent discharges do not threaten the quality of source waters or adversely impact the environment. Development of performance measures for this objective has been complicated by the difficulty in gauging the effectiveness of training and related retention issues.

Key Actions for 2006-07

- Discussions will be held between officials (Environmental Project Officers, Medical Health Officers and Public Health Inspectors) to strengthen integration and exchange information on provincially regulated systems. [Environment and Health]
- Further enhancement of the Environmental Management System (EMS) will be undertaken to support drinking water management, compliance activities and handle ever-increasing demand for data and information. Conversion of wastewater and surface water information into EMS this fiscal year will allow this information to be available on SaskH2O.ca in 2006-07. [Environment]
- Saskatchewan Health and the Mamawetan Churchill River Health Region have completed a review of existing issues with respect to northern Regional Health Authority (RHA) water sample testing. Both Health and the health region are working to develop strategies to address the issues that were identified during the review. [Health and Mamawetan Churchill Health Region]

What are we measuring?	Where are we starting from?
Under development	Under development

GOAL 3

High quality source waters are protected now and into the future

***OBJECTIVE 1** – Risks to source water quality are known*

Protection of source water quality is a component of the provision of safe drinking water. Identifying the risks to source water quality is the first step in developing actions and strategies to protect source water and minimize the cost of treating drinking water. It is possible that other risks to source water quality will be identified by using the watershed planning and protection actions outlined below. Additional actions and measures will be considered, in the future, as a means to deal with potential new risks.

Key Actions for 2006-07

- Assessing the health of watersheds is an essential aspect of source water protection. The Authority will consider comments on its framework for State of Watershed Reporting, revise the indicators where necessary and publish the first State of the Watershed Report during the fiscal year. [Saskatchewan Watershed Authority]
- Initiate an assessment to determine the contribution of non-point agricultural sources to water quality and habitat degradation that can be used in the watershed planning activities and to measure the efficacy of Best Management Practices. [Saskatchewan Watershed Authority]
- Complete annual sewage works inspections to identify which systems represent a risk to source water quality and to ensure sewage works meet operational and treatment requirements. Improvements in wastewater management will be continued through owner and operator education and permitting methods. [Environment]
- Develop and implement an annual municipal wastewater reporting protocol. [Environment]

What are we measuring?

Number of sewage effluent discharges that represent a risk to source waters

Where are we starting from?

92 sewage works (significant progress has been been made on 14 sewage works since September 2004)
[September 30, 2005]

The number of sewage effluent discharges that represent a risk to source waters is a good measure of the degree of protection afforded by wastewater treatment systems presently in place. Ensuring a minimum of secondary treatment and proper effluent discharge management will help to reduce risks to source water since wastes will be properly treated and released to the environment. Although SE has a high level of influence through regulations, the significant costs associated with upgrading means reducing the number of affected wastewater works will take time.

***OBJECTIVE 2** – Watersheds are protected, natural purification and protection processes are maximized and potential for contamination is minimized*

Protection of source waters can reduce the cost of water treatment and improve water quality while helping to maintain other water uses. Sound water resource management means that the processes that break down wastes must be protected, as must the land use practices that can protect water quality from contamination. Actions in terms of both organizational structure and watershed/water management are improving source water protection in the province.

Key Actions for 2006-07

- Continue to lead the development of a Canada-wide Strategy for the Management of Municipal Wastewater Effluent (MWWE). [Environment]
- Facilitate the work of local planning committees to complete source water protection plans for the Assiniboine, Lower Souris, North Saskatchewan, South Saskatchewan and Upper Qu'Appelle River watersheds and co-ordinate the development of the provincial responses to these plans. [Saskatchewan Watershed Authority]
- Assist designated watershed groups with the implementation of watershed plans and annually report progress. [Saskatchewan Watershed Authority]
- Initiate co-operative development of an Integrated Water Management Framework. [All agencies participating in the SDWS]
- Present to the Legislature a renewed Planning and Development Act that includes water source protection. [Government Relations]
- Work with municipalities and the Saskatchewan Watershed Authority to continue to develop and implement municipal water source protection bylaws on a watershed basis that are co-ordinated with staged implementation of watershed plans. This will help to ensure that the municipalities have bylaws in place that meet the standards required to protect the watersheds. [Government Relations]

What are we measuring?	**Where are we starting from?**
Number and percentage of municipalities with bylaws in place to protect their drinking water supplies	178 municipalities or 22 per cent *[December 2005]*

The number of municipalities with bylaws in place to protect their drinking water supplies is a good measure of source water protection. Bylaws will work towards ensuring safe drinking water. Government Relations will encourage water source protection in municipal land use bylaws and has a moderate level of control over municipal bylaws that may be used to help to ensure protection of source waters.

What are we measuring?

Water Quality Index ratings for lakes

Where are we starting from?

Waterbody	Year	Water	Quality Index
Jackfish Lake	2004	56.4	Marginal
Murray Lake	2004	67.6	Fair
Good Spirit Lake	2004	83.9	Good

The Water Quality Index is an overall measure of the quality of water for specific uses such as the protection of aquatic life, livestock watering, recreation, etc. The levels of chemicals and organisms in the samples are compared with the Water Quality Index levels for safety and health of the people. The Index is a composite measure of different chemicals and organisms in the water and is used to help determine whether the water quality is safe for particular uses. It is a good measure of the quality of surface or groundwater for all uses.

The Government has limited direct control over the results of this broad measure of water quality. While government regulates point source pollution, many human and natural factors can influence water quality.

What are we measuring?

Water Quality Index ratings for rivers

Where are we starting from?

Excellent
Churchill River

Good to Excellent
Assiniboine River, Beaver River, North Saskatchewan, South Saskatchewan, Saskatchewan River

Fair to Good
Qu'Appelle River*, Souris River

Poor to Fair
Moose Jaw River**

[2002]

* *There are two locations along the Qu'Appelle River where the quality would be considered marginal for protection of aquatic life. The river ranges from fair to excellent for livestock watering and irrigation purposes.*

** *Water quality concerns along the Moose Jaw River stem from nutrients and suspended solids from man-made sources (wastewater discharge and agricultural activities) and natural variation (flow, run-off and snow melt).*

GOAL 4

Citizens and consumers trust and value their drinking water and the operations which produce it

***OBJECTIVE 1** – Consumers value quality water and are willing to pay for it*

Saskatchewan residents are not always aware of the cost of providing safe drinking water. Protection of source waters, the ability to treat source water and ensure sustainable supplies is dependent on consumers that recognize the value of water and are willing to pay for it at present and in the future.

Key Actions for 2006-07

- Complete development of a native prairie teacher activity guide, linked to the Saskatchewan curriculum, by completing material for grades three to six and making it available on the Saskatchewan Watershed Authority's website. [Saskatchewan Watershed Authority]
- Provide public education material that focuses on the cost and value of water, benefits of better management of water demand and reducing water consumption. [Environment]

What are we measuring?	**Where are we starting from?**
Per cent of survey respondents indicating that they are willing to pay more for their drinking water	68% *[March 2005; latest data available]*

The public willingness to pay more for water is a measure of how much the public values safe drinking water provided through municipal or public treatment and supply works. It is also an indirect measure of the confidence and trust in drinking water supplies and the water provider's and Government's ability to produce and ensure safe drinking water. Since this is measured through public polling, results could be influenced by events outside the province.

***OBJECTIVE 2** – Citizens and consumers trust the quality and reliability of their drinking water systems and are confident in the regulatory system*

Consumer trust in drinking water and regulatory systems that govern them is vital to ensuring the long-term sustainability of waterworks. Consumers who trust the quality and reliability of their water supplies are more willing to support the production of safe drinking water in the future. Release of polling results also bolsters transparency and public trust.

Key Actions for 2006-07

- Continue to implement the drinking water polling strategy and publish results, which will allow tracking of public opinion and trust in drinking water and the associated regulatory systems. [Environment]

What are we measuring?	Where are we starting from?
Per cent of survey respondents indicating that they are very or somewhat confident in the quality of their tap water	86% *[March 2005; latest data available]*

Public confidence in drinking water quality is a good measure of the public trust in the ability of waterworks owners and governments to deal with the challenges of providing safe water. Since this is measured through public polling, results could be influenced by events outside the province.

***OBJECTIVE 3** – Citizens have meaningful access to information about the quality of their water*

Information on water quality is important in building public trust in water systems. Information must be understandable, current and readily accessible. To build full trust, information needs to be available both from the waterworks owner and the regulator.

Key Actions for 2006-07

- By September 1, 2006, and annually thereafter, municipalities will be required to provide to the public key information on the financial sustainability of their waterworks, including the level of cost recovery. This information will help ratepayers to understand the financial soundness of their municipal waterworks and the need for cost recovery rates. Waterworks with cost recovery rates are more likely to be able to provide safe drinking water. [Government Relations]
- Initiate polling to measure public attitudes towards source water protection. [Saskatchewan Watershed Authority]
- Extend implementation of a Drinking Water Quality Index (DWQI) to more water users to convey easy to understand information to consumers on water quality and the adequacy of the systems that produce drinking water. [Environment]

What are we measuring?	Where are we starting from?
Number of system owners that publicly release water quality results	489 *[August 31, 2005]*

The number of system owners that publicly release water quality results is a good measure of the acceptance waterworks owners have in recognizing their responsibility for safety of water and education of the public. The Government has a high level of influence in achieving this requirement through regulations.

***OBJECTIVE 4** – Reduced consumption of water*

Reduced consumption of water is important in minimizing costs and thereby properly valuing water. Water conservation is also necessary to protect water source quality and abundance, particularly during times of increased demand.

Key Actions for 2006-07

- Develop public information on water conservation initiatives. [Saskatchewan Watershed Authority]

What are we measuring?	**Where are we starting from?**
Average per capita consumption of water (gallons per day)	73.3 gallons per day *[2004, latest available data]*

This measure quantifies the average water usage on a per capita basis and directly supports gauging progress towards the objective. The Government has a limited degree of control over this measure. However, it can influence the measurement result through its educational efforts.

For More Information

If you have any questions, comments or feedback about the plan, need more information or would like additional copies, we invite you to call:

Saskatchewan Environment's Inquiry Centre: (306) 787-2700
Toll free in Saskatchewan: 1-800-567-4224

Or visit us on-line at:
http://www.se.gov.sk.ca

Additional information on drinking water is available at:
http://www.se.gov.sk.ca/environment/protection/water/water.asp
http://www.se.gov.sk.ca/environment/protection/water/drinking.asp
http://www.saskh2o.ca/